

**COVID-19 Information**[Public health information \(CDC\)](#)[Research information \(NIH\)](#)[SARS-CoV-2 data \(NCBI\)](#)[Prevention and treatment information \(HHS\)](#)[Español](#)[Case Reports](#)[Ann Hematol. 2000 Sep;79\(9\):523-6. doi: 10.1007/s002770000186.](#)

# Fatal cardiac arrhythmia after infusion of dimethyl sulfoxide-cryopreserved hematopoietic stem cells in a patient with severe primary cardiac amyloidosis and end-stage renal failure

[R Zenhäusern<sup>1</sup>](#), [A Tobler](#), [L Leoncini](#), [O M Hess](#), [P Ferrari](#)

Affiliations

PMID: 11043425 DOI: [10.1007/s002770000186](#)

## Abstract

Amyloidosis (AL) is a rapidly fatal plasma cell dyscrasia causing progressive multiorgan failure. Recently, substantial improvement of survival was reported following high-dose chemotherapy with peripheral blood stem cell (PBSC) rescue. We describe a patient with AL with severe cardiac and renal involvement who received high-dose melphalan followed by fractionated autologous PBSC transplantation (455 ml on day 1 and 350 ml on day 2). Immediately after the second infusion of the PBSCs, life-threatening cardiac arrhythmias occurred and, despite intensive treatment, the patient died less than 24 h later. The infusion of cryopreserved PBSCs may be associated with complications, including cardiac toxicity. Dimethyl sulfoxide (DMSO) is the most frequently used cryopreservation agent. In the present case, we suggest that DMSO could have played an important role in causing the fatal cardiac arrhythmias. The mechanisms of the cardiovascular effects of DMSO and the possible preventive measures are discussed. Given the poor prognosis of AL and the promising results of dose-intensive chemotherapy with autologous PBSC transplantation, careful patient selection and intensive monitoring are mandatory in order to further pursue this therapeutic approach.

## Related information

[MedGen](#)[PubChem Compound \(MeSH Keyword\)](#)

## LinkOut - more resources

**Other Literature Sources**[The Lens - Patent Citations](#)**Medical**[Genetic Alliance](#)[MedlinePlus Health Information](#)